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THE INVESTMENT PERFORMANCE AND MARKET SIZE OF DEFAULTED BONDS AND BANK LOANS IN 2003: OUTLOOK FOR 2004/2005

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The Investment Performance and Market Size of Defaulted Bonds and Bank Loans in 2003: Outlook for 2004/2005

- **The defaulted and distressed, public and private debt market in the United States performed exceptionally well in 2003. The NYU Salomon Center Defaulted and Public Bond Index increased by over 85% and the Defaulted Bank Loan Index by 27.5% -- the Combined Index surged by 49.3%. Record annual performance was recorded for all three indexes.**

- **The recovery rate on defaulted bonds (price just after default) rebounded impressively from a low of 25 cents on the dollar in 2002 to over 45 cents in 2003; likewise, the weighted average bank loan recovery rate in 2003 increased substantially. New defaulted bonds in 2003 fell to about $38.5 billion in 2003 from the record total in 2002, resulting in a slightly below average, but still substantial default rate of 4.66%.**

- **The face value size of the Combined Defaulted and Distressed, Public and Private debt market decreased by $356 billion from the record high year of $942 billion, one year earlier, to about $585 billion -- a reduction of 38%. The market size decrease in 2003 from $513 billion to $369 billion was a more modest 28%. The drop was completely a function of the dramatic reduction in distressed debt (bonds selling at more than 1,000 basis points over ten-year US Treasuries). Still, a market size of $369 billion is far greater than the estimated demand from dedicated distressed investors of $70-$80 billion.**

- **Expected default rates in 2004 and 2005 are 3.5% and 4.1% respectively. The size of the Defaulted and Distressed debt market is expected to continue its fall by 14% in 2004 to $319 billion (market value) and to rise a bit in 2005 to $328 billion.**

Executive Summary

The two big stories in 2003 for the distressed debt market were record levels of returns on defaulted bonds, bank loans and our combined index of bonds and loans and the significant shrinkage in the size of the *distressed* (bonds yielding more than 1,000 basis points over US Treasuries) debt market. After a lackluster year in 2002, the defaulted bond and bank loan market shot-up in 2003 with an almost uninterrupted string of positive monthly returns. The yearly return on default bonds registered a mighty 85% and the market-to-face value of the index increased from 17% to 47% by year-end. Defaulted bank loans returns increased more modestly by 27.5%, still a record year since we began tracking this Index in 1996. Our combined index of bonds and bank loans increased by a record 49.3%.

The size of defaulted bonds and bank loans remained virtually unchanged during the year as the amount of new defaults ($38.6 billion) approximated the amount of bonds emerging from reorganization ($32 billion). But, it was the enormous fall in the proportion of the high yield plus defaulted debt market belonging to our category of distressed debt, from 21% to 5%, that reduced the combined public and private, defaulted and distressed market by as much as 38% to $585 billion (face value) and a 28% reduction in market value to $369 billion.

The key questions concern what do we expect about the size of this still substantial market going forward and the correlated expected return performance over the next two years. To answer these questions and also to forecast future default rates, we utilize the following forecasting methodology. We use our mortality rate method to predict future defaults based on the historical relationship between the credit quality of

new issuance and the aging effect of defaults. Credit quality is determined by a blend of original issue bond ratings and our Z-Score rating equivalent approach. This results in an expected default rate of 3.5% and 4.1% in 2004 and 2005, respectively -- down from 4.7% in 2003, and a total defaulted and distressed debt market size, in terms of market values, of $319 and $328 billion, respectively.

The following report presents our estimates of the current size and performance of defaulted and distressed debt in 2003 and our outlook for 2004/2005. Based on some rather crude, but we think reasonable aggregate analysis, we expect defaulted bonds and bank loans to perform in a rather normal fashion with annual returns in the 10%-15% range. We realize that many events and related markets' movements may cause these estimates to be off from what we expect. For in-depth discussions of the supply and demand elements of defaulted and distressed securities, as well as their performance attributes, see our reference list at the end of this report. We also list our compilation of the names of distressed investors and their different strategies at the end of this report. The former now numbers at least 80 institutions.

Measuring and Monitoring Performance of Defaulted Debt

Defaulted Bond Index

The Altman-NYU Salomon Center Defaulted Bond Index (A-NYU Index) was developed in 1990 for the purpose of measuring and monitoring the performance of defaulted debt securities.[1] The sample period of our Index begins in January 1987 and as of December 31, 2003 includes 124 issues from 63 firms (Figure 1). The Index's market value was $21.1 billion and its face value was $44.2 billion. The size of our Index, as measured by the face value of public defaulted bonds is about four times the face value of the Index during the early 1990s and the market value is about twice the level of the Index at its highest measure, previously observed in 1992 and 2001. Figure 1 exhibits various measures of our Index's size since its December 1986 inception. The variability in the number of issues, with a low of 30 in 1986 and a high of 231 in 1992, continues to be notable. The huge new issue supply of non-investment grade debt in the years 1996-1999 resulted in a continued increase of default amounts during subsequent years until 2002. Due to a drop in the default rate in 2003 and a culling of issues that do not trade regularly, we observe a marked reduction in 2003 in the numbers of issues and the face value of the Index to $44.2 billion. Yet, the market value more than doubled because of the remarkable returns in 2003 and the significant increase of the average default recovery rate on new issues entering the Index this past year.

[1] This index, originally developed in Altman's Foothill Report (1990) is maintained and published on a monthly basis at the NYU Salomon Center of the Leonard N. Stern School of Business. It is available, along with data and reports on high yield debt default rates and performance, from the Center (212-998-0701 or 212-998-0709).

Defaulted Bank Loan Index

Managers of distressed securities are commonly investing and arbitraging their portfolios in both distressed bonds and the private debt (particularly bank debt) of defaulting companies. The observed increasing investment in defaulted private debt has been coincident with the bank loan market's increasing size and liquidity as market makers have devoted considerable resources to bank debt trading. In 2002, and again in 2003, there was almost as much trading in distressed bank debt (loans trading at or below 90 cents on the dollar) than in non-distressed loans (from *Loan Pricing Corporation* data). Indeed, about 40% of the trading was in distressed and defaulted loans. We responded in 1996 to this increased level of emphasis on bank loans by calculating an Index of Defaulted Bank Loan Facilities, as well as a Combined Index of Defaulted Bonds and Bank Loans.

The Altman-NYU Salomon Center Index of Defaulted Bank Loans, like the defaulted bond index, is a market-weighted, monthly total return index comprised of U.S. companies. The Index contained 17 facilities at its inception in December 1995 and has grown a high level of 141 facilities from 56 borrowers as of December 31, 2001 and had 76 facilities from 43 borrowers at the end of 2003 (Figure 2). The market value of this Index was at a record level of $23.9 billion at the end of 2003 with a face value of $39.0 billion.

Market/Face Value Ratios

We consider the ratio of the aggregate market value to face value of the component securities that comprise our indexes to be an important measure of the defaulted debt markets' current relative health and potential future returns. This ratio for

defaulted bonds has ranged, at year-end, from a maximum level of 0.74 in 1987 to a minimum level of 0.15 in 2000 (Figure 1). While the market/face value ratio has varied within a fairly narrow range of 0.30 to 0.55 during a majority of years in our 17-year sample period (1986-2003), abnormal annual returns for the Index has resulted in a number of market/face value ratio observations well outside of this range. Indeed, the ratio had been 0.25 or below for the five-year period 1998-2002 and ended 2002 at 0.17. In 2003, the ratio almost tripled to 0.47. The trend in the market/face value ratios of both defaulted bonds and bank loans can be seen clearly in Figure 3. Note that the Defaulted Bank Loan Index dropped to its all time low ratio in 2002 of 0.46, but rebounded sharply to 0.61 one year later (year-end 2003).

One can conclude that if there is movement in the average price level of both defaulted bonds and bank loans that resemble a regression-to-the-mean, then both indexes will move in that direction. In the interest of full disclosure, we have noted this relationship in the past and have not observed the *immediate* anticipated change in market prices and returns. Still one year ago in the "Altman Report on the Defaulted Bonds and Bank Loans," Salomon Smith Barney, March 4, 2003, we wrote the following, "We still believe that both indexes are at unusually low levels, which bodes well for returns in 2003." We did not anticipate, however, such a remarkable and rapid regression-to-the-mean movement.

From Figures 1 and 2, we also observe that the level of the market/face value ratios at the end of 2003 were somewhat above the mean and median level for the period 1986-2003 for defaulted bonds (0.47 vs. 0.42 median) and exactly at the mean and median level (0.61) for defaulted bank loans. This implies a fairly priced market and a

rather average expected performance for a "long-only" investment strategy on defaulted bonds and bank loans in 2004 and 2005. Of course, many distressed debt investors do not follow a "long-only" strategy now and hedge their portfolios through various arbitrage strategies using shorting techniques such as capital-structure-arbitrage. This involves a "long" investment in one security in the capital structure and a "short" on another tranche, for example, senior bank loans versus subordinated bonds.

Performance Measurement

Our Indexes include the securities of firms at various stages of reorganization either in bankruptcy or restructuring. We calculate the returns for the Index using data compiled from just after default to the point when the bankrupt firm emerges from Chapter 11, is liquidated, or until the default is "cured" or resolved through an exchange. The securities of distressed restructured companies are also included in the Index until the restructuring is completed. The Index includes bond issues of all seniorities, from senior-secured to junior-unsecured debt. A study by Altman and Eberhart (1994), updated by Standard & Poor's (Brand and Behar, 2000), measured the performance of defaulted debt from the time of original issuance through default and then to emergence from bankruptcy. These studies conclude that the seniority of the issue is an extremely important determinant of the performance of defaulted securities over specific periods, whether from issuance to emergence or from default to emergence. Our Indexes do not include convertible or international company issues, nor does it include distressed, but not defaulted, securities. And, as noted above, the performance measure is based on a fully invested, long-only strategy.

2003 Performance of Defaulted Bonds and Bank Loans

The Altman-NYU Salomon Center Index of Defaulted Bonds reversed its poor performance in 2002, increasing by an astounding 84.87% in 2003, marking the Index's eleventh positive annual return in our 17-year period (Figures 4 and 5). The Index experienced positive returns in every month in 2003, except in July. Indeed, in seven of the 12 months the return exceeded five percent. The extremely positive results are not surprising as the supply of newly defaulted bond issues decreased throughout the year, helping to drive up prices.[2] Monthly returns for all 17 years of the Defaulted Bond Index are listed in Appendix A. The level of the Index increased from 182.5 at the end of 2002 to 337.5 at year-end 2003 (December 1986=100).

The S&P 500 Stock Index, which finished with an annual return of 28.70% (assuming reinvestment of dividends) in 2003, was comparatively less volatile and experienced four months with positive returns in excess of 5%.

Defaulted bond securities outperformed the total return on the S&P 500 Stock Index for the third year in a row. The Defaulted Bond Index also outperformed the Citigroup High Yield Bond Market Index, which itself returned an impressive 30.6%. Ten-year government bonds underperformed all of our risky security indexes, posting a positive return of only 1.25%.

Seventeen-Year Comparative Performance

Figure 4 exhibits the return on defaulted bonds, common stocks, and high yield bonds over the entire seventeen-year sample period, 1987-2003. The arithmetic annual average for the Altman-NYU Salomon Center Defaulted Bond Index dramatically

[2] See Altman, Brady, Resti and Sironi (2002, 2004) for a detailed analysis of the supply/demand dynamic and its impact on corporate debt prices just after default.

increased to 10.89%, up by 4.62% from one year ago. This arithmetic average annual return is now only less than three percent below that of the S&P 500 Stock Index (13.53% per year). And, for the first time since 1997, our Defaulted Bond Index has an annual arithmetic average return above that of the Citigroup High Yield Bond Market Index (9.77% per year) for the sample period. In seven of the 17 years, defaulted bonds performed better than both of the other two indexes, and in seven years our bond Index was the lowest performer.

The standard deviation of annual returns for the defaulted bond index increased a fair amount in 2003, and it remains the highest of the three indexes. Comparing volatility on a monthly basis, however, the standard deviation of monthly returns for defaulted bond issues (4.41%) is, in fact, slightly lower than that of the S&P 500 Stock Index (4.59%) while both of these indexes are considerably more volatile than the Citigroup High Yield Bond Index (2.16%). The discrepancy between the standard deviations of high yield bonds and defaulted bonds is consistent with high yield bonds paying a fairly steady fixed interest component compared to defaulted bonds which, typically, do not pay interest.

Defaulted Bank Loan Performance

Today's managers of distressed securities are more commonly investing in both distressed bonds and the private debt (particularly bank debt) of defaulting companies. As noted earlier, the observed increasing investment in defaulted private debt has been coincident with the bank loan market's increasing size and liquidity as market makers have devoted considerable resources to bank debt trading. Comparative informational

efficiency of the bank loan versus public bond daily prices has been recently analyzed in Altman, Gande and Saunders (2004), available from http://www.stern.nyu.edu/~ealtman.

In 2003, our Defaulted Bank Loan Index performed very well compared to most asset classes, returning 27.48% for the year and closing at 153.6 (December 1995=100). Although this Index underperformed our Defaulted Bond Index as well as both the S&P 500 Index and the Citigroup High Yield Bond Market Index (Figure 6), it still set a record for annual returns. Defaulted bank loans are considerably less volatile. Our Bank Loan Index also experienced positive returns in 11 months in 2003 with three topping five percent. Appendix B shows the monthly performance of our Defaulted Bank Loan Index from its inception through December 31, 2003.

The average annual return of the Defaulted Bank Loan Index since its inception in 1996 almost doubled to 6.20% from 3.16% one year ago. The arithmetic average annual return is slightly below that of the Defaulted Bond Index over the comparable period (7.04%) and still trails both the equity and high yield bond indexes (Figure 6). The standard deviation of annual returns is considerably lower than that of the S&P Index and the Defaulted Bond Index but slightly above the Citigroup High Yield Bond Index.

Combined Bond and Bank Loan Index

Our Combined Defaulted Bond and Bank Loan Index is calculated based on the combined market values and total returns of public bonds and private bank loans. The Index, from its inception in 1996 through 2003, is displayed in Appendix C. The annual return for the Combined Index was up a record 49.3% for 2003. This cumulative index level closed out the year at 145.1, up dramatically from 96.7 in 2002. The Combined Index enables us to benchmark performance criteria for a more broadly defined defaulted

securities market. At the end of 2003, the market values of the defaulted bond versus bank loan indexes were very close at $21.1 billion for bonds versus $22.9 billion for loans.

Diversification: Management Styles and Return Correlations

One strategy that our analysis suggests is to include defaulted debt in a larger portfolio of risky securities. Several domestic pension funds and foreign portfolios have effectively used this strategy by allocating a portion of their total investments to defaulted debt money managers. The principal idea for this strategy is that the returns from investing in distressed debt securities have relatively low correlations with most other major asset classes. This can be clearly seen from the data on the correlation of returns that we have been tracking for many years.

Figure 7 exhibits the correlation between the Altman-NYU Defaulted Bond Index and each of the two other risky asset classes - common stocks and high yield bonds - for the last 17 years. As of December 31, 2003, we observe that the monthly return correlation between defaulted debt and the S&P 500 Stock Index is only 28.34%. The correlation between defaulted bonds and S&P equities in 2003 is slightly above the correlation between these two asset classes as of last year (27.59%) but up about 4% from two years earlier. The still low correlation is important to note because holders of defaulted debt usually exchange their debt for the equity of the emerged Chapter 11 entity, unless they sell the debt just prior to emergence. The correlation between these two asset classes on a quarterly basis is slightly higher at 35.2%. Incidentally, the performance of emerging equities in 2003 was even more spectacular than defaulted

bonds and bank loans, many of which had returns in excess of 100% in less than one year.

The correlation between defaulted bonds and high yield bonds is comparatively high. The monthly correlation of returns is 61.85%, while the quarterly correlation between these two asset classes is 62.75% (Figure 7). Both are up slightly from one year ago. As was the case in the past, the correlation between the High Yield Bonds Index and the Defaulted Loan Index (see Figure 8) is lower than that of defaulted bonds and high yield bonds, at 46.22% and 51.64% for monthly and quarterly returns, respectively. The returns for defaulted bank loans still has a negative relationship with the S&P 500 (-2.52%), compared to a more negative one last year. Finally, the monthly returns' correlation between our two-defaulted debt indexes (bonds and bank loans) was "only" 61.21% (monthly) and 66.37% based on quarterly returns. One might expect a somewhat higher correlation, but the reality perhaps reflects trading strategies of distressed investors, like capital structure arbitrage.

Diversification by Manager Style

Almost all portfolio managers involved in the distressed debt market are specialists in the sector, rather than investors in distressed securities within broader-based portfolios. Therefore, the avenue of diversification appears to be primarily through the use of different investment managers (there are some rare exceptions where a fund combines investments in more traditional debt and equity securities combined with distressed securities). Some "fund-of-funds" and foreign closed-end Funds have adopted the strategy of selecting managers of distressed securities with different styles. In addition to diversifying across asset classes, these funds have a strategy of investing with

managers of distressed securities who practice different approaches (for example, active, passive, control, long-short, senior versus subordinate). A list of about 80 dedicated distressed debt investors can be found in Appendix D and a listing of three major types of strategies and their sub-strategies is given in Appendix E.

Proportion and Size of the Distressed and Defaulted Public and Private Debt Markets

The distressed and defaulted public debt proportion of the straight (non-convertible) high yield and defaulted corporate debt markets in the United States comprised about 23% of the total market, down considerably from the 40% figure at the end of 2002 (see Figure 9). Our measure of the total market here is the aggregation of high yield bonds ($886 billion at year-end) and the public defaulted bond issues that were still outstanding as of December 31, 2003 (estimated to be about $193 billion) for a total of $1,079 billion. Note the big drop in 2003 in the proportion of high yield bonds that were classified as distressed (trading at least 1,000 basis points over risk-free ten-year US Treasuries). This proportion dropped to about 5% as of year-end 2003 from 21% one year earlier. The proportion of distressed debt compared to just the high yield market was about 5.7%.

The defaulted debt proportion remained fairly steady at 18% compared to 19% one year earlier. This reflects the fact that new defaults in 2003 ($38 billion) were fairly close to the amount of bonds that were involved with companies emerging from Chapter 11 bankruptcies (about $32 billion). We can expect that emergences will vastly outpace new defaults in 2004, especially since several large bankruptcies are expected to be completed (for example, WorldCom and Enron) and the expected default rate and default amounts are expected to be lower in 2004.

Market Size

From Figure 10, we estimate the size of the defaulted and distressed public and private debt markets as of year-end 2003. Total US distressed and defaulted debt fell dramatically in 2003 to about $585 billion (face value) from the record level of $942 billion one year earlier. The overwhelming reason for the precipitous drop is the amount of distressed debt. Recall, we saw that the proportion of distressed bonds fell from 21% to about 5%.

The breakdown in 2003 of the total public defaulted and distressed bonds is $193 billion of defaulted bonds and only $51 billion of distressed bond issues. We again utilize a public to private debt ratio of 1.4:1 to estimate the size of the private debt market (primarily bank loans and private placements). Combining our estimates of the public and private debt results in the $585 billion figure.

Our estimate for *market values*, combining the public and private debt market, was about $369 billion, down from $513 billion one year earlier. The drop (28%) would have been even greater if the average defaulted and distressed bond and bank loan had not dramatically increased in value during the year. Indeed, we increased our estimated average price of defaulted bonds to 45% of par based on levels from our Altman-NYU Salomon Center Defaulted Bond Index. Commensurate increases in public distressed securities as well as private debt markets are indicated in Figure 10. We expect that these markets will continue to diminish in size in the next year or two as default rates are expected to fall and the amount of bonds emerging from their reorganization status increases. We will discuss this forecast further in the next section.

Figure 11 shows our estimate of defaulted and distressed debt values for the period 1990 to 2003. Note that the level of public and private defaulted and distressed debt is now somewhat below the level in 2000 but still a very sizeable "vulture" investing market. Market values are fairly similar to the average in the 2000-2001 period, although clearly below the record level of 2002. Note that certain years during the sample period shown in Figure 11 are not included because we did not perform the required analysis for those years.

Forecasting Default Rates and Size of the Distressed and Defaulted Market

One of the more enduring aspects of the high yield bond market is the importance of default rates and the change in this risk parameter. We have observed that when markets expect a very high level of defaults and the actual default rate is far below expectations, the yield spread on high yield bonds tends to fall dramatically and both the high yield and distressed debt markets' return is likely to soar. This certainly was the case in 1991 and again in 2003. So, forecasting default rates is a useful exercise for high yield investors, not to mention those "vulture" investors whose market size depends on levels of required returns and defaults. The following methodology was utilized to forecast default rates and the size of the market for distressed and defaulted securities in 2004 and 2005.

(1) Observe the recent history of credit quality metrics on corporate bond new issuance.

(2) Forecast the size of the high yield market over the forecasting period.

(3) Apply the mortality rate methodology and its historical empirical results to historical credit quality, new issuance statistics and to forecasted new issuance (in 2004 only).

(4) Aggregate defaults from each of the last ten years of new issuance by bond rating, adjusted for past defaults, calls, and other redemptions, to derive future defaults and then divide this total into the forecasted market size to ascertain future default rates.

(5) Using forecasted future defaults and assuming a diminution in the current size of existing defaulted securities, we can derive defaulted bond levels in 2004 and 2005. By observing the trend in default levels, we can make some assumptions about distressed debt levels in 2004 and 2005 in order to forecast the market's total size in those years.

Credit Quality Levels of Past New Issuance

The standard technique to assess the credit quality of new issuance in the corporate bond market is simply to observe the bond ratings from the rating agencies on new issuance for the period 1994-2003. We utilize the average quality over the past five years to derive estimates of new issuance and credit quality ratings in 2004 (necessary to forecast one year default levels in 2005). Past defaults and all redemptions for 1994-2003 and expected in 2004 are deducted from the historical new issuance totals to derive the appropriate cohort of bond levels, by rating, for our mortality rate forecast (see Altman [1989] for an analytical discussion of the mortality rate approach. We call this the aged-bond-rating technique (ABR).

A modification of the ABR is to rely on our own measure of credit quality instead of the rating agencies, wherever sufficient data exists. We utilized the more robust version of our Z-Score credit-scoring model, called the Z"-Score, to derive a credit score and then a bond-rating-equivalent of those scores. We then substitute our bond-rating-equivalent for the actual bond rating at issuance and apply it to past new issuance on a firm-by-firm basis. Because this process was quite tedious and many firms' data were not available from electronic databases, we mainly used the most recent estimates of Z"-scores from *Bloomberg* (adding an appropriate constant term to get the bond-rating-

equivalent). We only were able to apply this technique to the last several years of new issuance due to data matching difficulties. This technique, therefore, is really a blend of rating agency credit risk measures and the Z"-Score model. We call this forecasting approach the aged-bond-rating-equivalent method (ABRE).

The particular Z-Score model we used was:[3]

$$Z\text{"-Score} = 3.25 + 6.56\ X_1 + 3.26\ X_2 + 6.72\ X_3 + 1.05\ X_4$$

Where:

X_1 = Current Assets – Current Liabilities/Total Tangible Assets (TTA)

X_2 = Retained Earnings/TTA

X_3 = EBIT/TTA

X_4 = Book Equity/Total Liabilities

The Bond-Rating-Equivalents for the scores derived from this model are given in Figure 12.

Forecasted Results

Using the ABR technique (agency ratings on new corporate bond issuance), the mortality rate percentages from our companion Annual Report ("Defaults and Returns in the High Yield Bond Market: The Year 2003 in Review and Market Outlook," NYU Salomon Center, February 2004, Figure 18) and high yield bond market size estimates for 2004 and 2005 (mid-year), we forecast that the default rate will be 3.2% in 2004 and 3.8% in 2005. The size of the market for 2004 is based on the current (December 31, 2003) size of $886.5 billion plus an expected growth in the first half of 2004 of about $60

[3] We originally built this version of Z-Score for emerging market credits and published it in "Emerging Market Corporate Bonds - A Scoring System," Salomon Brothers, May 15, 1995, (with J. Hartzell and M. Peck); reprinted in E. Altman, *Bankruptcy, Credit Risk and High Yield Bonds*, Blackwell, 2002 (Chapter 5).

billion. We then assumed a 10% growth in the market for our estimate of 2005 market levels.

Utilizing our own Z"-Score approach (ABRE) for only about 25% of the new issues for 2002-2003 and the actual bond rating in other cases, our forecasted default rate was 3.8% in 2004 and 4.4% in 2005. Note that the Z"-Score approach assesses the quality of recent new issuance as somewhat lower than the rating agencies.

We present our final forecasted default amounts and rates in Figure 13. We decided to take an average of the ABR and the ABRE approaches to combine with our mortality rate estimate. The result is a default rate of 3.5% and 4.1% for 2004 and 2005 respectively. The 2004 rate of 3.5% is a reduction of about 1.1% from the level in 2003.

The higher rate in 2005 represents a combination of higher marginal mortality rates in the second year after issuance, compared to the first year, applied to 2003 new issuance and to investors' increased appetite for risk in 2003 (i.e., lower credit quality measures than in 2001-2002). Note that both the rating agencies and especially our Z-Score approach detect a deterioration in credit quality in 2003 new issuance from prior years. Indeed, the proportion of split B, CCC and non-rated new issues in 2003 jumped to about 11% of new issuance compared to about 3.5% in 2001 and 2002. This proportion was about 16% in 2000 and 20% in 1998, which helped to lead to very high default rates in 2001 and 2002. In many cases, the bond rating equivalent of our Z-Score approach yielded lower bond ratings than the actual rating. Please note we put all D-rating equivalents into the CCC rated basket.

Figure 14 presents our estimates of the future size of distressed and defaulted debt. These default estimates are based on our default rate and amount forecast (Figure

13) and estimates of the debt that will emerge from corporate restructurings, primarily Chapter 11, in the next two years. It is always tricky to forecast default rates and market size estimates. Still, the size of new defaults, recovery rates, and estimates of supply and demand in the distressed securities market are critical elements to expected performance and flow-of-funds expectations, so it is worth the effort.

Our forecast for the size of the defaulted public bond market starts from estimates of the size as of the end of 2003 ($193.2 billion from Figure 10). We then add expected new defaults in 2004 and 2005 of $33.1 billion and $42.7 billion respectively (Figure 13) and subtract our estimate of bonds from companies emerging from corporate restructurings. For the latter, we subtract $75 billion for each of 2004 and 2005. Since the average Chapter 11 filing takes between 18-24 months to complete, we expect that the vast majority of existing defaulted debt as of the end of 2003 to disappear within two years. We chose equal amounts to deduct in 2004 and 2005 because, among other things, the added amounts in 2004 coming from "seasoned" Chapter 11's (e.g., WorldCom's expected emergence in April 2004 from a July 2002 bankruptcy) could be similar to new defaults in 2004 (not in the 2003 figure) that will emerge in 2005. As one can see, these estimates are a bit crude but still quite reasonable.

For distressed debt, we assume that the year-end 2003 proportion of the high yield market remains unchanged at 5% in 2004 and then increases somewhat to 7.5% as of year-end 2005. We base the direction of the change (an increase) to the fact that we also expect defaults to increase in 2005 and the current level of distressed debt is historically quite low. The exact amount of the increase is, however, an educated guess at best.

We again assume a private-to-public debt ratio for defaulted and distressed firms of 1:4 to 1:0 to apply to our public debt forecasted levels. We also assume that the market value (percent of par value) for defaulted and distressed public and private debt will increase slightly in 2004 and 2005 based on average annual positive return expectations.

Our final estimate of the combined sizes of the public and private, defaulted and distressed debt market (Figure 14) is about $482 billion (face value) and $319 billion (market value) in 2004 and $473 billion (face value) and $328 billion (market value) as of year-end 2005. These values are similar to the market size found somewhere between 1999 and 2000 levels (Figure 11). Clearly, however, the shift in size based on where these markets present opportunities for distressed investors is expected to move toward distressed rather than defaulted securities.

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Figure 1

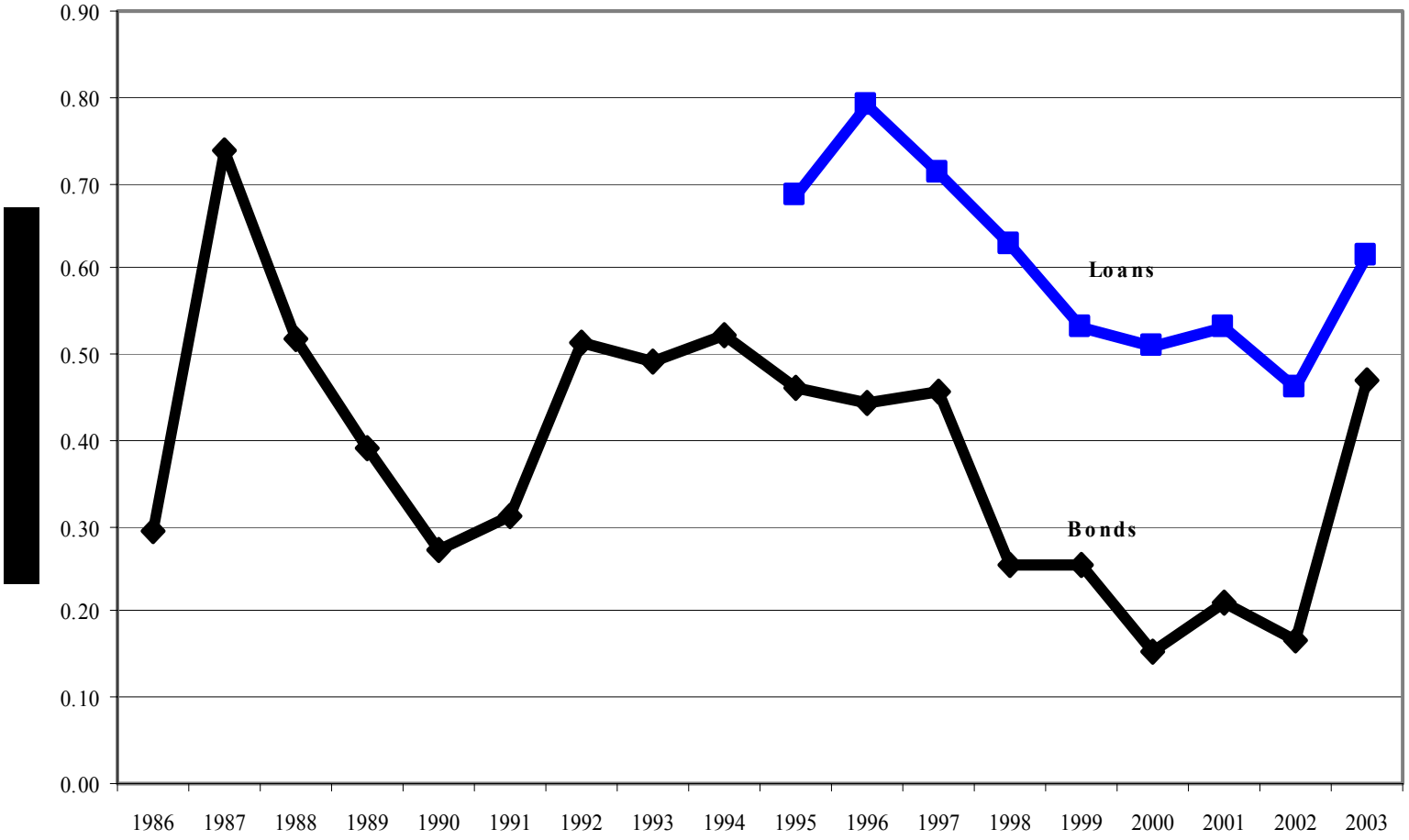
SIZE OF THE ALTMAN-NYU SALOMON CENTER DEFAULTED BOND INDEX (1986 - 2003)

Year End	Number of Issues	Number of Firms	Face Value ($ Billions)	Market Value ($ Billions)	Market / Face Ratio
1986	30	10	1.7	0.5	0.29
1987	53	18	5.7	4.2	0.74
1988	91	34	5.2	2.7	0.52
1989	111	35	8.7	3.4	0.39
1990	173	68	18.7	5.1	0.27
1991	207	80	19.6	6.1	0.31
1992	231	90	21.7	11.1	0.51
1993	151	77	11.8	5.8	0.49
1994	93	35	6.3	3.3	0.52
1995	50	27	5.0	2.3	0.46
1996	39	28	5.3	2.4	0.45
1997	37	26	5.9	2.7	0.46
1998	36	30	5.5	1.4	0.25
1999	83	60	16.3	4.1	0.25
2000	129	72	27.8	4.3	0.15
2001	202	86	56.2	11.8	0.21
2002	166	113	61.6	10.4	0.17
2003	124	63	44.2	21.1	0.47
Mean	111	53	18.2	5.7	0.38
Median	102	48	10.3	4.2	0.42

Figure2
SIZE OF THE ALTMAN-NYU SALOMON CENTER DEFAULTED BANK LOAN INDEX (1995 - 2003)

Year End	Number of Issues	Number of Firms	Face Value ($ Billions)	Market Value ($ Billions)	Market/ Face Ratio
1995	17	14	2.9	2.0	0.69
1996	23	22	4.2	3.3	0.79
1997	18	15	3.4	2.4	0.71
1998	15	13	3.0	1.9	0.63
1999	45	23	12.9	6.8	0.53
2000	100	39	26.9	13.6	0.51
2001	141	56	44.7	23.8	0.53
2002	64	51	37.7	17.4	0.46
2003	76	43	39.0	23.9	0.61
Mean	55	31	19.4	10.6	0.61
Median	45	23	12.9	6.8	0.61

Figure 3
DEFAULTED DEBT INDEXES:
MARKET-TO-FACE VALUE RATIO
(ANNUAL 1986 –2003)



Source: Altman-NYU Salomon Center Defaulted Debt Indexes

Figure 4

ALTMAN-NYU SALOMON CENTER DEFAULTED BOND INDEX

COMPARISON OF RETURNS (1987 -2003)

Year	Altman-NYU Salomon Center Defaulted	S&P 500 Stock	Citigroup High Yield Bond Index
1987	37.85%	5.26%	4.67%
1988	26.49%	16.61%	13.47%
1989	-22.78%	31.68%	2.75%
1990	-17.08%	-3.12%	-7.04%
1991	43.11%	30.48%	39.93%
1992	15.39%	7.62%	17.86%
1993	27.91%	10.08%	17.36%
1994	6.66%	1.32%	-1.25%
1995	11.26%	37.56%	19.71%
1996	10.21%	22.96%	11.29%
1997	-1.58%	34.36%	13.18%
1998	-26.91%	28.58%	3.60%
1999	11.34%	20.98%	1.74%
2000	-33.09%	-9.11%	-5.68%
2001	17.47%	-11.87%	5.44%
2002	-5.98%	-22.08%	-1.53%
2003	84.87%	28.70%	30.62%
1987 - 2003 Arithmetic Average (Annual) Rate	10.89%	13.53%	9.77%
Standard Deviation	29.13%	18.04%	12.65%
1987 - 2003 Compounded Average (Annual) Rate	7.42%	12.09%	9.12%
1987 - 2003 Arithmetic Average (Monthly) Rate	0.70%	1.06%	0.75%
Standard Deviation	4.41%	4.59%	2.16%
1987 - 2003 Compounded Average (Monthly) Rate	0.64%	1.02%	0.78%

Figure 5

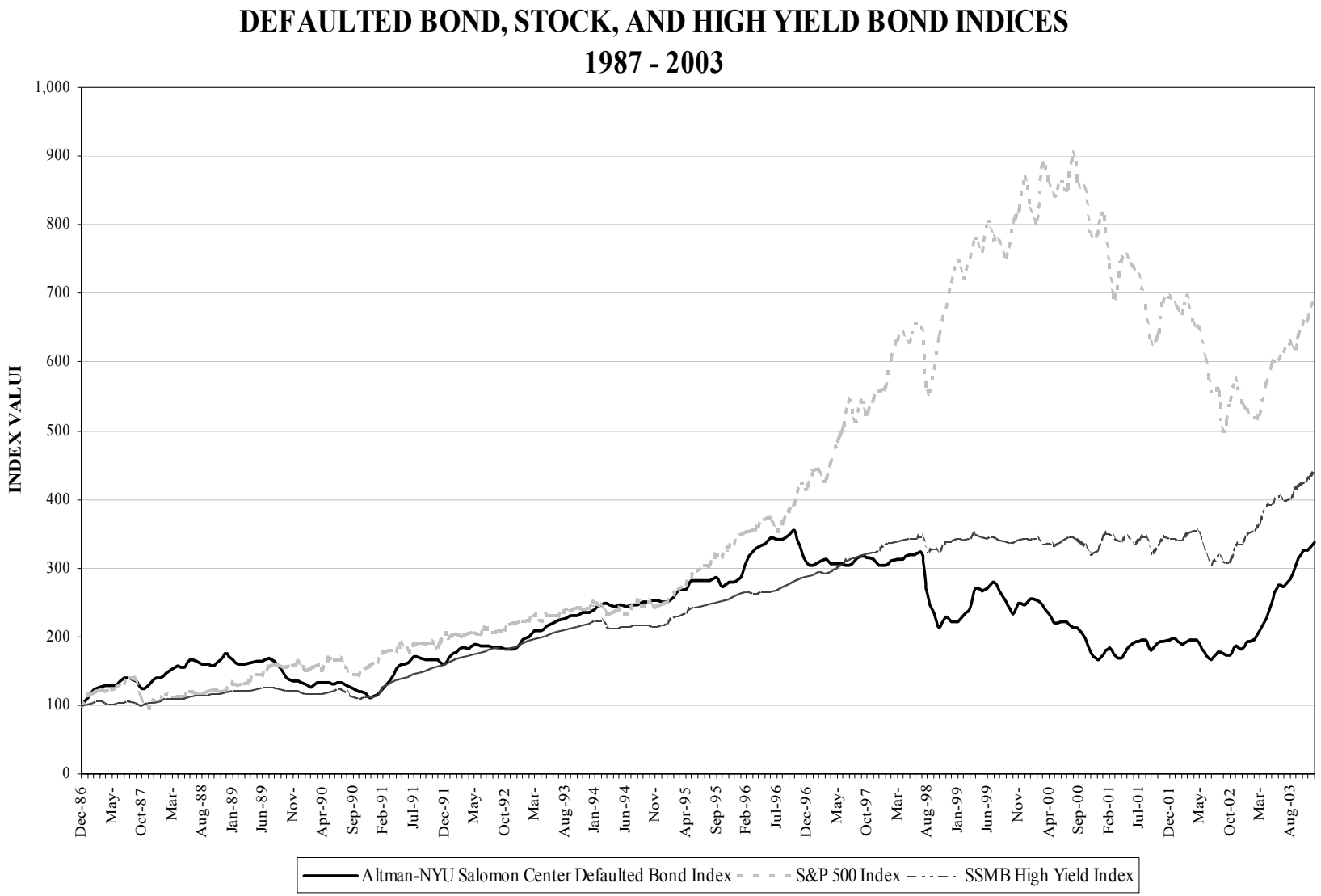

DEFAULTED BOND, STOCK, AND HIGH YIELD BOND INDICES
1987 - 2003
INDEX VALUE
1,000
900
800
700
600
500
400
300
200
100
0
Dec-86
May-87
Oct-87
Mar-88
Aug-88
Jan-89
Jun-89
Nov-89
Apr-90
Sep-90
Feb-91
Jul-91
Dec-91
May-92
Oct-92
Mar-93
Aug-93
Jan-94
Jun-94
Nov-94
Apr-95
Sep-95
Feb-96
Jul-96
Dec-96
May-97
Oct-97
Mar-98
Aug-98
Jan-99
Jun-99
Nov-99
Apr-00
Sep-00
Feb-01
Jul-01
Dec-01
May-02
Oct-02
Mar-03
Aug-03
Altman-NYU Salomon Center Defaulted Bond Index
S&P 500 Index
SSMB High Yield Index

FIGURE 6

ALTMAN-NYU SALOMON CENTER
DEFAULTED BANK LOAN INDEX

COMPARISON OF RETURNS
(1996 - 2003)

Year	Altman-NYU Salomon	S&P 500	Citigroup High Yield
1996	19.56%	22.96%	11.29%
1997	1.75%	34.36%	13.18%
1998	-10.22%	28.58%	3.60%
1999	0.65%	20.98%	1.74%
2000	-6.59%	-9.11%	-5.68%
2001	13.94%	-11.87%	5.44%
2002	3.03%	-22.08%	-1.53%
2003	27.48%	28.70%	30.62%
1996 - 2003 Arithmetic Average (Annual) Rate	6.20%	11.57%	7.33%
Standard Deviation	13.01%	22.14%	11.27%
1996 - 2003 Compounded Average (Annual) Rate	6.33%	10.91%	7.86%
1996 - 2003 Arithmetic Average (Monthly) Rate	0.51%	0.88%	0.58%
Standard Deviation	2.85%	4.92%	2.47%
1996 - 2003 Compounded Average (Monthly) Rate	0.47%	0.76%	0.55%

Figure 7

CORRELATION OF ALTMAN-NYU SALOMON CENTER INDEXES OF DEFAULTED BONDS WITH OTHER SPECULATIVE SECURITIES INDEXES 1987 - 2003

Correlation of Monthly Returns

	Altman-NYU Defaulted Bond Index	S&P 500 Stock Index	Citigroup High Yield Bond Index
Altman-NYU Defaulted Bond Index	100.00%	28.34%	61.85%
S&P 500 Stock Index		100.00%	50.62%
Citigroup High Yield Bond Index			100.00%

Correlation of Quarterly Returns

	Altman-NYU Defaulted Bond Index	S&P 500 Stock Index	Citigroup High Yield Bond Index
Altman-NYU Defaulted Bond Index	100.00%	35.18%	62.75%
S&P 500 Stock Index		100.00%	53.93%
Citigroup High Yield Bond Index			100.00%

FIGURE 8

CORRELATION OF ALTMAN-NYU SALOMON CENTER INDEXES OF DEFAULTED LOANS WITH OTHER SPECULATIVE SECURITIES INDEXES 1996 - 2003

Correlation of Monthly Returns

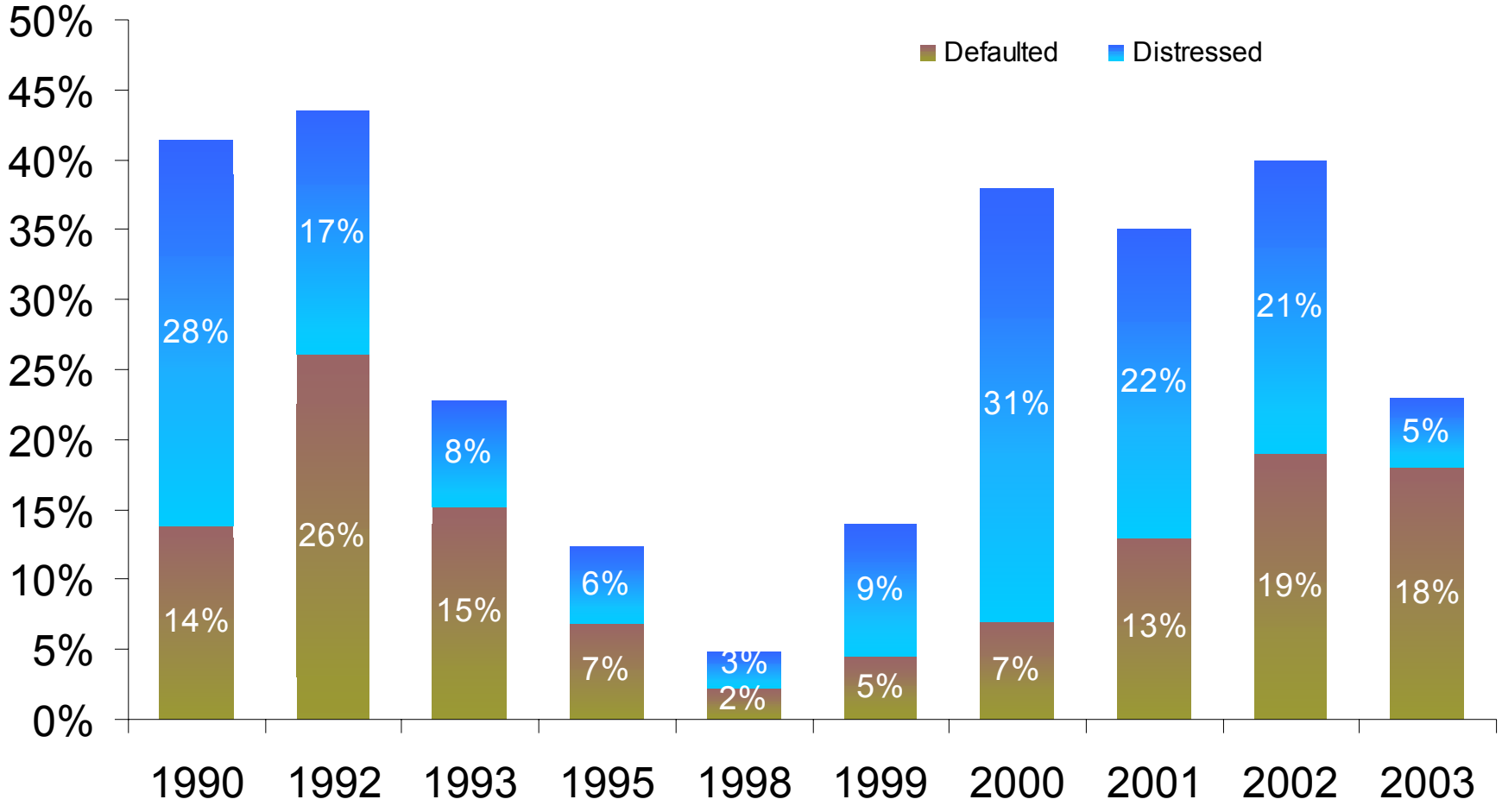
	Altman-NYU Loan Index	S&P 500 Stock Index	Citigroup High Yield Index	Altman-NYU Bond Index
Altman-NYU Loan Index	100.00%	-2.52%	46.22%	61.02%
S&P 500 Stock Index		100.00%	50.30%	23.12%
Citigroup High Yield Index			100.00%	64.49%
Altman-NYU Bond Index				100.00%

Correlation of Quarterly Returns

	Altman-NYU Loan Index	S&P 500 Stock Index	Citigroup High Yield Index	Altman-NYU Bond Index
Altman-NYU Loan Index	100.00%	19.34%	51.64%	66.37%
S&P 500 Stock Index		100.00%	60.85%	40.89%
Citigroup High Yield Index			100.00%	62.14%
Altman-NYU Bond Index				100.00%

Figure 9

DISTRESSED AND DEFAULTED DEBT AS A PERCENTAGE OF TOTAL HIGH YIELD DEBT MARKET



Public deals only.

Some years not available as no survey results available
Source: Salomon Smith Barney Estimates.

Figure 10

ESTIMATED FACE AND MARKET VALUES OF DEFAULTED AND DISTRESSED DEBT

	Face Value		Market Value			
	12/31/02	12/31/03	12/31/02	xFV	12/31/03	xFV
Public Debt						
Defaulted	$ 187.7	$ 193.2 (1)	$ 37.5	*0.20*	$ 86.9	*0.45*
Distressed	$ 204.7	$ 50.5	$ 102.4	*0.50*	$ 32.8	*0.65*
Total Public	**$ 392.5**	**$ 243.7**	**$ 139.9**		**$ 119.8**	
Private Debt						
Defaulted	$ 262.8	$ 270.5 (2)	$ 157.7	*0.60*	$ 189.3 (2)	*0.70*
Distressed	$ 286.6	$ 70.7 (2)	$ 215.0	*0.75*	$ 60.1 (2)	*0.85*
Total Private	**$ 549.5**	**$ 341.2**	**$ 372.7**		**$ 249.4**	
Total Public and Private	**$ 941.9**	**$ 584.9**	**$ 512.6**		**$ 369.2**	

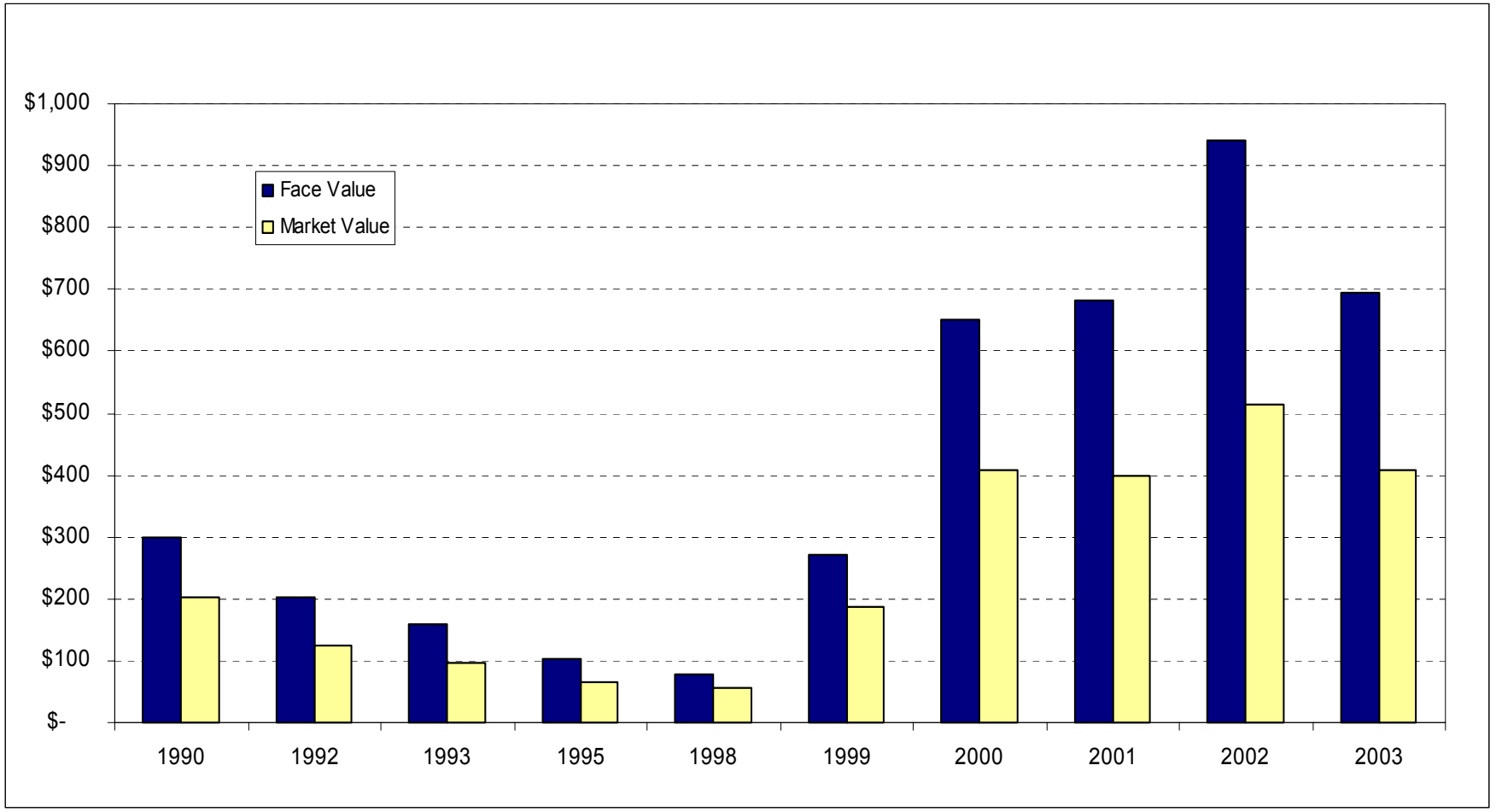
(1) Calculated using: (2002 defaulted population) + (2003 defaults) - (2003 Emergences)

(2) For 12/31/02 and Q3, 2003, we use a private/public ratio of 1.40.

Source: Edward Altman, NYU Salomon Center, Stern School of Business

Figure 11

Size of Defaulted And Distressed Debt Market ($ Billions) (1990 – 2003)



Source: E. Altman, NYU Salomon Center .

Figure 12

US Bond Rating Equivalent Based on Adjusted Z" Score Model

$$Z''=3.25+6.56X_1+3.26X_2+6.72X_3+1.05X_4$$

US Equivalent Rating	Average EM Score	Simple Size
AAA	8.15	8
AA+	7.6	-
AA	7.3	18
AA-	7	15
A+	6.85	24
A	6.65	42
A-	6.4	38
BBB+	6.25	38
BBB	5.85	59
BBB-	5.65	52
BB+	5.25	34
BB	4.95	25
BB-	4.75	65
B+	4.5	78
B	4.15	115
B-	3.75	95
CCC+	3.2	23
CCC	2.5	10
CCC-	1.75	6
D	0	14

Figure 13

FORECASTED HIGH YIELD MARKET SIZE, DEFAULTS AND DEFAULT RATES FOR 2004 AND 2005

	High Yield Market ($ Billion)	Default Rate (%)	Default Amount ($ Billions)
2004	$946.5	3.50%	$33.10
2005	$1,041.0	4.10%	$42.70

Figure 14

FORECASTED FACE AND MARKET VALUES OF DEFAULTED AND DISTRESSED DEBT 2004-2005 ($ billion)

	Face Value			Market Value		
	12/31/04	12/31/05	12/31/04	xFace Value	12/31/05	xFace Value
Public Debt						
Defaulted	$ 151.3	$ 119.0 (1)	$ 72.6	*0.48*	$ 59.5	*0.50*
Distressed	$ 49.7	$ 78.0 (2)	$ 32.3	*0.65*	$ 50.7	*0.65*
Total Public	**$ 201.0**	**$ 197.0**	**$ 104.9**		**$ 110.2**	
Private Debt						
Defaulted	$ 211.8	$ 166.6 (3)	$ 154.6	*0.73*	$ 125.0	*0.75*
Distressed	$ 69.6	$ 109.2 (3)	$ 59.1	*0.85*	$ 92.8	*0.85*
Total Private	**$ 281.4**	**$ 275.9**	**$ 213.8**		**$ 217.8**	
Total Public and Private	**$ 482.4**	**$ 472.9**	**$ 318.7**		**$ 328.0**	

(1) Calculated using: (2003 defaulted population) + (2004 defaults) – (2004 emergences), same for 2005
(2) Based on 5.0% of size of high yield market (in 2004, $994 billion); 7.5% of market in 2005 ($1,041 billion)
(3) For 12/31/2004 and 12/31/2005, we use a private/public debt ratio of 1.40

Sources: Estimated by Professor Edward Altman, NYU Stern School of Business from Citigroup's High Yield Bond Database, NYU Salomon Center Defaulted Bond and Bank Loan Databases.

APPENDIX A

ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED PUBLIC BONDS AND BANK LOANS

Returns (1987-2003) and comparison with
S&P 500 stock index and Citigroup High Yield Market Index
(December 1986 = 100)

MONTH	PUBLIC BOND INDEX	PUBLIC BOND PERCENT RETURN	BANK LOAN PERCENT RETURN	S&P PERCENT RETURN	Citigroup-HYMI PERCENT RETURN
JAN-87	109.802	9.802%		13.470%	2.828%
FEB-87	121.367	10.533%		3.950%	1.651%
MAR-87	125.946	3.773%		2.890%	1.106%
APR-87	127.523	1.252%		-0.890%	-2.181%
MAY-87	128.086	0.442%		0.870%	-0.451%
JUN-87	131.797	2.897%		5.050%	1.382%
JUL-87	139.051	5.503%		5.070%	0.544%
AUG-87	139.775	0.521%		3.730%	1.002%
SEP-87	136.351	-2.450%		-2.190%	-2.301%
OCT-87	124.194	-8.916%		-21.540%	-2.672%
NOV-87	128.188	3.216%		-8.240%	2.529%
DEC-87	137.846	7.534%		7.610%	1.328%
1987 YTD		37.846%		5.263%	4.667%
JAN-88	139.836	1.443%		4.210%	2.736%
FEB-88	147.445	5.442%		4.660%	2.713%
MAR-88	152.013	3.098%		-3.090%	-0.165%
APR-88	156.846	3.180%		1.110%	0.289%
MAY-88	155.424	-0.907%		0.870%	0.522%
JUN-88	166.943	7.411%		4.590%	1.912%
JUL-88	165.047	-1.136%		-0.380%	1.057%
AUG-88	160.398	-2.817%		-3.400%	0.329%
SEP-88	160.280	-0.073%		4.260%	1.008%
OCT-88	157.692	-1.615%		2.780%	1.558%
NOV-88	166.885	5.830%		-1.430%	0.375%
DEC-88	174.358	4.478%		1.750%	0.423%
1988 YTD		26.488%		16.610%	13.473%
JAN-89	166.568	-4.468%		7.320%	1.500%
FEB-89	159.928	-3.986%		-2.490%	0.672%
MAR-89	159.596	-0.207%		2.330%	-0.089%
APR-89	162.878	2.056%		5.190%	0.295%
MAY-89	164.529	1.014%		4.050%	1.841%
JUN-89	164.381	-0.090%		-0.570%	1.417%
JUL-89	168.429	2.462%		9.030%	0.474%
AUG-89	164.959	-2.060%		1.960%	0.494%
SEP-89	152.029	-7.838%		-0.410%	-0.952%
OCT-89	139.257	-8.401%		-2.320%	-1.582%

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MONTH	PUBLIC BOND INDEX	PUBLIC BOND PERCENT RETURN	BANK LOAN PERCENT RETURN	S&P PERCENT RETURN	Citigroup-HYMI PERCENT RETURN
NOV-89	135.585	-2.637%		2.040%	0.224%
DEC-89	134.638	-0.698%		2.400%	-0.090%
1989 YTD		-22.781%		31.684%	4.231%
JAN-90	130.721	-2.909%		-6.710%	-1.954%
FEB-90	127.026	-2.826%		1.290%	-1.456%
MAR-90	132.078	3.977%		2.650%	1.352%
APR-90	134.029	1.477%		-2.500%	0.508%
MAY-90	132.374	-1.234%		9.750%	1.806%
JUN-90	130.115	-1.707%		-0.680%	1.938%
JUL-90	133.091	2.287%		-0.320%	2.113%
AUG-90	129.064	-3.026%		-9.040%	-3.830%
SEP-90	125.206	-2.989%		-4.870%	-4.350%
OCT-90	119.852	-4.276%		-0.430%	-2.550%
NOV-90	116.627	-2.691%		6.460%	0.850%
DEC-90	111.643	-4.273%		2.790%	1.440%
1990 YTD		-17.079%		-3.117%	-4.352%
JAN-91	115.199	3.185%		4.360%	1.414%
FEB-91	124.975	8.486%		7.150%	7.423%
MAR-91	135.596	8.499%		2.420%	4.299%
APR-91	154.057	13.615%		0.240%	3.561%
MAY-91	158.670	2.994%		4.320%	0.488%
JUN-91	161.307	1.662%		-4.580%	2.011%
JUL-91	169.993	5.385%		4.661%	2.396%
AUG-91	167.792	-1.295%		2.370%	2.102%
SEP-91	165.359	-1.450%		-1.670%	1.274%
OCT-91	167.152	1.084%		1.340%	2.971%
NOV-91	165.614	-0.920%		-4.030%	1.155%
DEC-91	159.768	-3.530%		11.437%	1.162%
1991 YTD		43.105%		30.481%	34.576%
JAN-92	171.039	7.055%		-1.863%	3.496%
FEB-92	176.521	3.205%		1.300%	2.484%
MAR-92	183.396	3.895%		-1.945%	1.395%
APR-92	182.896	-0.273%		2.935%	0.728%
MAY-92	187.589	2.566%		0.490%	1.595%
JUN-92	185.621	-1.049%		-1.488%	1.242%
JUL-92	186.093	0.254%		4.085%	2.026%

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(December 1986 = 100)

MONTH	PUBLIC BOND INDEX	PUBLIC BOND PERCENT RETURN	BANK LOAN PERCENT RETURN	S&P PERCENT RETURN	Citigroup-HYMI PERCENT RETURN
AUG-92	184.756	-0.718%		-2.047%	1.324%
SEP-92	183.033	-0.933%		1.175%	1.140%
OCT-92	181.528	-0.822%		0.345%	-1.263%
NOV-92	180.789	-0.407%		3.405%	1.416%
DEC-92	184.356	1.973%		1.227%	1.288%
1992 YTD		15.390%		7.622%	18.160%
JAN-93	194.590	5.551%		0.836%	2.462%
FEB-93	200.593	3.085%		1.363%	1.893%
MAR-93	208.930	4.156%		2.110%	1.734%
APR-93	209.492	0.269%		-2.417%	0.717%
MAY-93	214.806	2.537%		2.675%	1.346%
JUN-93	218.677	1.802%		0.293%	1.879%
JUL-93	224.262	2.554%		-0.402%	1.075%
AUG-93	226.792	1.128%		3.794%	0.953%
SEP-93	229.733	1.297%		-0.767%	0.493%
OCT-93	231.211	0.643%		2.069%	1.884%
NOV-93	235.273	1.757%		-0.953%	0.547%
DEC-93	235.819	0.232%		1.209%	1.000%
1993 YTD		27.915%		10.079%	17.182%
JAN-94	239.182	1.426%		3.400%	2.191%
FEB-94	246.835	3.200%		-2.714%	-0.719%
MAR-94	248.706	0.758%		-4.360%	-3.259%
APR-94	243.625	-2.043%		1.282%	-1.169%
MAY-94	246.527	1.191%		1.641%	-0.356%
JUN-94	243.904	-1.064%		-2.451%	0.368%
JUL-94	245.060	0.474%		3.284%	0.703%
Aug-94	246.861	0.735%		4.100%	0.695%
Sep-94	250.310	1.397%		-2.445%	-0.038%
Oct-94	251.036	0.290%		2.247%	0.254%
Nov-94	252.281	0.496%		-3.642%	-0.850%
Dec-94	251.514	-0.304%		1.483%	1.112%
1994 YTD		6.656%		1.321%	-1.165%
JAN-95	250.966	-0.218%		2.593%	1.413%
FEB-95	256.422	2.174%		3.897%	3.120%
MAR-95	267.266	4.229%		2.951%	1.392%
APR-95	267.514	0.093%		2.945%	2.341%

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(December 1986 = 100)

MONTH	PUBLIC BOND INDEX	PUBLIC BOND PERCENT RETURN	BANK LOAN PERCENT RETURN	S&P PERCENT RETURN	Citigroup-HYMI PERCENT RETURN
May-95	282.016	5.421%		3.997%	3.124%
June-95	281.509	-0.180%		2.320%	0.764%
July-95	282.015	0.180%		3.310%	1.143%
Aug-95	282.100	0.030%		0.250%	0.610%
Sept-95	286.473	1.550%		4.220%	1.144%
Oct-95	273.008	-4.700%		-0.357%	0.709%
Nov-95	278.393	1.972%		4.390%	0.976%
Dec-95	279.837	0.518%		1.926%	1.605%
1995 YTD		11.261%		37.565%	19.915%
Jan-96	286.857	2.509%	0.959%	3.404%	1.579%
Feb-96	309.090	7.750%	2.805%	0.927%	0.151%
Mar-96	323.112	4.537%	2.790%	0.963%	-0.272%
Apr-96	329.509	1.980%	-0.008%	1.474%	0.045%
May-96	333.711	1.275%	4.875%	2.579%	0.721%
Jun-96	344.767	3.313%	3.759%	0.381%	0.601%
Jul-96	340.995	-1.094%	1.376%	-4.418%	0.679%
Aug-96	341.808	0.239%	-1.142%	2.109%	1.033%
Sep-96	349.011	2.107%	0.791%	5.628%	2.146%
Oct-96	355.628	1.896%	1.694%	2.758%	1.096%
Nov-96	324.977	-8.619%	0.371%	7.559%	2.022%
Dec-96	308.399	-5.102%	-0.104%	-1.981%	0.769%
1996 YTD		10.207%	19.561%	22.960%	11.064%
Jan-97	303.637	-1.544%	1.879%	6.248%	0.517%
Feb-97	308.018	1.443%	2.400%	0.784%	1.433%
Mar-97	313.370	1.737%	0.771%	-4.109%	-1.111%
Apr-97	306.690	-2.132%	-6.627%	5.970%	1.138%
May-97	307.026	0.109%	-1.933%	6.880%	2.150%
Jun-97	305.282	-0.568%	3.596%	4.480%	1.523%
Jul-97	304.586	-0.228%	0.453%	7.957%	2.400%
Aug-97	311.492	2.267%	1.190%	-5.602%	-0.175%
Sep-97	316.597	1.639%	2.406%	5.477%	1.656%
Oct-97	315.203	-0.440%	0.241%	-3.340%	0.664%
Nov-97	311.569	-1.153%	-0.415%	4.629%	0.947%
Dec-97	303.533	-2.579%	-1.817%	1.717%	0.949%
1997 YTD		-1.578%	1.746%	34.359%	12.726%
Jan-98	303.5	0.00%	-0.38%	1.11%	2.26%

APPENDIX A

ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED PUBLIC BONDS AND BANK LOANS

Returns (1987-2003) and comparison with
S&P 500 stock index and Citigroup High Yield Market Index
(December 1986 = 100)

MONTH	PUBLIC BOND INDEX	PUBLIC BOND PERCENT RETURN	BANK LOAN PERCENT RETURN	S&P PERCENT RETURN	Citigroup-HYMI PERCENT RETURN
Feb-98	309.5	1.96%	-0.84%	7.21%	0.68%
Mar-98	312.0	0.82%	1.68%	5.12%	1.08%
Apr-98	312.6	0.19%	4.19%	1.01%	0.54%
May-98	319.7	2.27%	2.33%	-1.72%	0.27%
Jun-98	318.8	-0.28%	-0.99%	4.06%	0.22%
Jul-98	322.5	1.15%	-0.05%	-1.07%	0.80%
Aug-98	263.6	-18.25%	-6.26%	-14.46%	-6.70%
Sep-98	234.1	-11.21%	-6.16%	6.41%	1.23%
Oct-98	211.9	-9.48%	-7.88%	8.13%	-1.38%
Nov-98	227.4	7.32%	5.44%	6.06%	5.02%
Dec-98	221.9	-2.43%	-0.85%	5.76%	-0.07%
1998 YTD		-26.91%	-10.22%	28.58%	3.60%
Jan-99	222.3	0.22%	3.59%	4.18%	1.50%
Feb-99	231.0	3.91%	-1.01%	-3.11%	-0.84%
Mar-99	242.8	5.07%	-1.70%	4.00%	0.85%
Apr-99	269.8	11.15%	2.91%	3.87%	2.09%
May-99	266.7	-1.14%	1.92%	-2.36%	-1.57%
Jun-99	269.4	1.00%	2.58%	5.50%	-0.22%
Jul-99	279.5	3.75%	1.31%	-3.12%	0.22%
Aug-99	265.6	-4.96%	-4.80%	-0.50%	-1.19%
Sep-99	251.5	-5.33%	1.29%	-2.74%	-0.76%
Oct-99	233.5	-7.13%	-2.64%	6.33%	-0.68%
Nov-99	249.3	6.75%	-2.31%	2.04%	1.57%
Dec-99	247.0	-0.92%	-0.12%	5.89%	0.84%
1999 YTD		11.34%	0.65%	20.98%	1.74%
Jan-00	255.7	3.50%	3.64%	-5.02%	-0.83%
Feb-00	253.1	-1.01%	-2.27%	-1.89%	0.24%
Mar-00	245.9	-2.86%	-5.48%	9.77%	-2.03%
Apr-00	232.0	-5.64%	1.02%	-3.01%	0.40%
May-00	219.3	-5.46%	-0.08%	-2.05%	-1.39%
Jun-00	221.9	1.16%	-1.46%	2.47%	2.25%
Jul-00	221.2	-0.32%	0.38%	-1.56%	1.09%
Aug-00	212.4	-3.96%	-0.65%	6.21%	0.74%
Sep-00	211.1	-0.64%	0.86%	-5.28%	-1.07%
Oct-00	196.5	-6.91%	-0.71%	-0.42%	-2.96%
Nov-00	176.6	-10.10%	-1.39%	-7.88%	-4.09%

APPENDIX A

ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED PUBLIC BONDS AND BANK LOANS

Returns (1987-2003) and comparison with
S&P 500 stock index and Citigroup High Yield Market Index
(December 1986 = 100)

MONTH	PUBLIC BOND INDEX	PUBLIC BOND PERCENT RETURN	BANK LOAN PERCENT RETURN	S&P PERCENT RETURN	Citigroup-HYMI PERCENT RETURN
Dec-00	165.3	-6.42%	-0.39%	0.49%	2.04%
2000 YTD		-33.09%	-6.59%	-9.11%	-5.68%
Jan-01	172.8	4.55%	4.11%	3.55%	6.74%
Feb-01	183.0	5.90%	6.71%	-9.11%	1.19%
Mar-01	173.1	-5.43%	0.57%	-6.33%	-1.82%
Apr-01	168.6	-2.57%	-2.31%	7.76%	-1.47%
May-01	180.7	7.20%	2.04%	0.67%	1.61%
Jun-01	189.7	4.96%	1.27%	-2.43%	-2.75%
Jul-01	191.9	1.17%	-0.22%	-0.98%	1.88%
Aug-01	195.8	2.04%	3.05%	-6.25%	1.37%
Sep-01	180.5	-7.84%	-1.99%	-8.07%	-7.20%
Oct-01	190.2	5.35%	-1.73%	1.91%	3.32%
Nov-01	193.1	1.57%	1.12%	7.67%	3.80%
Dec-01	194.1	0.52%	0.89%	0.88%	-0.64%
2001 YTD		17.47%	13.94%	-11.87%	5.44%
Jan-02	197.8	1.90%	3.51%	-1.46%	0.43%
Feb-02	189.4	-4.26%	-1.43%	-1.93%	-1.09%
Mar-02	193.4	2.12%	3.71%	3.76%	2.66%
Apr-02	195.9	1.29%	3.27%	-6.06%	1.64%
May-02	191.7	-2.17%	0.21%	-0.73%	-1.24%
Jun-02	173.6	-9.44%	-1.64%	-7.12%	-8.81%
Jul-02	166.3	-4.19%	-4.27%	-7.79%	-4.52%
Aug-02	176.4	6.05%	-4.37%	0.66%	3.81%
Sep-02	174.4	-1.11%	-2.03%	-10.86%	-1.97%
Oct-02	172.2	-1.27%	-1.25%	8.80%	-0.34%
Nov-02	186.8	8.49%	5.37%	5.88%	7.63%
Dec-02	182.5	-2.28%	2.51%	-5.87%	1.21%
2002 YTD		-5.98%	3.03%	-22.08%	-1.53%
Jan-03	193.9	6.21%	3.22%	-2.62%	3.72%
Feb-03	195.1	0.63%	0.20%	-1.50%	1.34%
Mar-03	208.2	6.73%	0.66%	0.97%	3.37%
Apr-03	227.2	9.13%	2.92%	8.24%	6.21%
May-03	249.4	9.74%	3.05%	5.32%	0.66%
Jun-03	274.8	10.20%	6.73%	1.28%	3.11%
Jul-03	272.7	-0.78%	-3.15%	1.76%	-1.48%
Aug-03	284.3	4.29%	0.65%	1.95%	1.03%

APPENDIX A

ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED PUBLIC BONDS AND BANK LOANS

Returns (1987-2003) and comparison with
S&P 500 stock index and Citigroup High Yield Market Index
(December 1986 = 100)

MONTH	PUBLIC BOND INDEX	PUBLIC BOND PERCENT RETURN	BANK LOAN PERCENT RETURN	S&P PERCENT RETURN	Citigroup-HYMI PERCENT RETURN
Sep-03	303.9	6.86%	3.58%	-1.06%	2.96%
Oct-03	323.0	6.31%	3.24%	5.66%	2.33%
Nov-03	326.9	1.21%	1.92%	0.88%	1.39%
Dec-03	337.5	3.22%	1.82%	5.24%	2.57%
2003 YTD		84.87%	27.48%	28.70%	30.62%

APPENDIX B

ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED BANK LOANS

Returns (1996-2003) and comparison with
S&P 500 stock index and Citigroup High Yield Market Index
(December 1995 = 100)

MONTH	BANK LOAN INDEX	BANK LOAN PERCENT RETURN	PUBLIC BOND PERCENT RETURN	S&P PERCENT RETURN	CITIGROUP PERCENT RETURN
Jan-96	101.0	0.96%	2.51%	3.40%	1.58%
Feb-96	103.8	2.80%	7.75%	0.93%	0.15%
Mar-96	106.7	2.79%	4.54%	0.96%	-0.27%
Apr-96	106.7	-0.01%	1.98%	1.47%	0.05%
May-96	111.9	4.87%	1.28%	2.58%	0.72%
Jun-96	116.1	3.76%	3.31%	0.38%	0.60%
Jul-96	117.7	1.38%	-1.09%	-4.42%	0.68%
Aug-96	116.3	-1.14%	0.24%	2.11%	1.03%
Sep-96	117.3	0.79%	2.11%	5.63%	2.15%
Oct-96	119.2	1.69%	1.90%	2.76%	1.10%
Nov-96	119.7	0.37%	-8.62%	7.56%	2.02%
Dec-96	119.6	-0.10%	-5.10%	-1.98%	0.77%
TOTAL 1996 RETURN		19.56%	10.21%	22.96%	11.06%
Jan-97	121.8	1.88%	-1.54%	6.25%	0.52%
Feb-97	124.7	2.40%	1.44%	0.78%	1.43%
Mar-97	125.7	0.77%	1.74%	-4.11%	-1.11%
Apr-97	117.4	-6.63%	-2.13%	5.97%	1.14%
May-97	115.1	-1.93%	0.11%	6.88%	2.15%
Jun-97	119.2	3.60%	-0.57%	4.48%	1.52%
Jul-97	119.8	0.45%	-0.23%	7.96%	2.40%
Aug-97	121.2	1.19%	2.27%	-5.60%	-0.18%
Sep-97	124.1	2.41%	1.64%	5.48%	1.66%
Oct-97	124.4	0.24%	-0.44%	-3.34%	0.66%
Nov-97	123.9	-0.41%	-1.15%	4.63%	0.95%
Dec-97	121.6	-1.82%	-2.58%	1.72%	0.95%
TOTAL 1997 RETURN		1.75%	-1.58%	34.36%	12.73%
Jan-98	121.2	-0.38%	0.00%	1.11%	2.26%
Feb-98	120.2	-0.84%	1.96%	7.21%	0.68%
Mar-98	122.2	1.68%	0.82%	5.12%	1.08%
Apr-98	127.3	4.19%	0.19%	1.01%	0.54%
May-98	130.3	2.33%	2.27%	-1.72%	0.27%
Jun-98	129.0	-0.99%	-0.28%	4.06%	0.22%
Jul-98	128.9	-0.05%	1.15%	-1.07%	0.80%
Aug-98	120.8	-6.26%	-18.25%	-14.46%	-6.70%
Sep-98	113.4	-6.16%	-11.21%	6.41%	1.23%
Oct-98	104.5	-7.88%	-9.48%	8.13%	-1.38%
Nov-98	110.2	5.44%	7.32%	6.06%	5.02%
Dec-98	109.2	-0.85%	-2.43%	5.76%	-0.07%
1998 YTD		-10.22%	-26.91%	28.58%	3.60%

APPENDIX B

ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED BANK LOANS

Returns (1996-2003) and comparison with
S&P 500 stock index and Citigroup High Yield Market Index
(December 1995 = 100)

MONTH	BANK LOAN INDEX	BANK LOAN PERCENT RETURN	PUBLIC BOND PERCENT RETURN	S&P PERCENT RETURN	CITIGROUP PERCENT RETURN
Jan-99	113.1	3.59%	0.22%	4.18%	1.50%
Feb-99	112.0	-1.01%	3.91%	-3.11%	-0.84%
Mar-99	110.1	-1.70%	5.07%	4.00%	0.85%
Apr-99	113.3	2.91%	11.15%	3.87%	2.09%
May-99	115.5	1.92%	-1.14%	-2.36%	-1.57%
Jun-99	118.5	2.58%	1.00%	5.50%	-0.22%
Jul-99	120.0	1.31%	3.75%	-3.12%	0.22%
Aug-99	114.2	-4.80%	-4.96%	-0.50%	-1.19%
Sep-99	115.7	1.29%	-5.33%	-2.74%	-0.76%
Oct-99	112.7	-2.64%	-7.13%	6.33%	-0.68%
Nov-99	110.1	-2.31%	6.75%	2.04%	1.57%
Dec-99	109.9	-0.12%	-0.92%	5.89%	0.84%
1999 YTD		0.65%	11.34%	20.98%	1.74%
Jan-00	113.9	3.64%	3.50%	-5.02%	-0.83%
Feb-00	111.3	-2.27%	-1.01%	-1.89%	0.24%
Mar-00	105.2	-5.48%	-2.86%	9.77%	-2.03%
Apr-00	106.3	1.02%	-5.64%	-3.01%	0.40%
May-00	106.2	-0.08%	-5.46%	-2.05%	-1.39%
Jun-00	104.7	-1.46%	1.16%	2.47%	2.25%
Jul-00	105.1	0.38%	-0.32%	-1.56%	1.09%
Aug-00	104.4	-0.65%	-3.96%	6.21%	0.74%
Sep-00	105.3	0.86%	-0.64%	-5.28%	-1.07%
Oct-00	104.5	-0.71%	-6.91%	-0.42%	-2.96%
Nov-00	103.1	-1.39%	-10.10%	-7.88%	-4.09%
Dec-00	102.7	-0.39%	-6.42%	0.49%	2.04%
2000 YTD		-6.59%	-33.09%	-9.11%	-5.68%
Jan-01	106.9	4.11%	4.55%	3.55%	6.74%
Feb-01	114.1	6.71%	5.90%	-9.11%	1.19%
Mar-01	114.7	0.57%	-5.43%	-6.33%	-1.82%
Apr-01	112.1	-2.31%	-2.57%	7.76%	-1.47%
May-01	114.3	2.04%	7.20%	0.67%	1.61%
Jun-01	115.8	1.27%	4.96%	-2.43%	-2.75%
Jul-01	115.5	-0.22%	1.17%	-0.98%	1.88%
Aug-01	119.1	3.05%	2.04%	-6.25%	1.37%
Sep-01	116.7	-1.99%	-7.84%	-8.07%	-7.20%
Oct-01	114.7	-1.73%	5.35%	1.91%	3.32%
Nov-01	116.0	1.12%	1.57%	7.67%	3.80%
Dec-01	117.0	0.89%	0.52%	0.88%	-0.64%
2001 YTD		13.94%	17.47%	-11.87%	5.44%
Jan-02	121.1	3.51%	1.90%	-1.46%	0.43%

APPENDIX B

ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED BANK LOANS

Returns (1996-2003) and comparison with
S&P 500 stock index and Citigroup High Yield Market Index
(December 1995 = 100)

MONTH	BANK LOAN INDEX	BANK LOAN PERCENT RETURN	PUBLIC BOND PERCENT RETURN	S&P PERCENT RETURN	CITIGROUP PERCENT RETURN
Feb-02	119.4	-1.43%	-4.26%	-1.93%	-1.09%
Mar-02	123.8	3.71%	2.12%	3.76%	2.66%
Apr-02	127.8	3.27%	1.29%	-6.06%	1.64%
May-02	128.1	0.21%	-2.17%	-0.73%	-1.24%
Jun-02	126.0	-1.64%	-9.44%	-7.12%	-8.81%
Jul-02	120.6	-4.27%	-4.19%	-7.79%	-4.52%
Aug-02	115.3	-4.37%	6.05%	0.66%	3.81%
Sep-02	113.0	-2.03%	-1.11%	-10.86%	-1.97%
Oct-02	111.6	-1.25%	-1.27%	8.80%	-0.34%
Nov-02	117.6	5.37%	8.49%	5.88%	7.63%
Dec-02	120.5	2.51%	-2.28%	-5.87%	1.21%
2002 YTD		3.03%	-5.98%	-22.08%	-1.53%
Jan-03	124.4	3.22%	6.21%	-2.62%	3.72%
Feb-03	124.7	0.20%	0.63%	-1.50%	1.34%
Mar-03	125.5	0.66%	6.73%	0.97%	3.37%
Apr-03	129.1	2.92%	9.13%	8.24%	6.21%
May-03	133.1	3.05%	9.74%	5.32%	0.66%
Jun-03	142.0	6.73%	10.20%	1.28%	3.11%
Jul-03	137.6	-3.15%	-0.78%	1.76%	-1.48%
Aug-03	138.5	0.65%	4.29%	1.95%	1.03%
Sep-03	143.4	3.58%	6.86%	-1.06%	2.96%
Oct-03	148.1	3.24%	6.31%	5.66%	2.33%
Nov-03	150.9	1.92%	1.21%	0.88%	1.39%
Dec-03	153.7	1.82%	3.22%	5.24%	2.57%
2003 YTD		27.48%	84.87%	28.70%	30.62%

APPENDIX C

COMBINED ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED BOND AND BANK LOAN INDEX

(December 1995 = 100)

Date	Monthly Level	Monthly Return	Year-to-Date Return
Dec-95	100.00		
Jan-96	101.80	1.797%	1.797%
Feb-96	107.10	5.211%	7.088%
Mar-96	111.07	3.706%	11.048%
Apr-96	112.23	1.041%	12.226%
May-96	115.74	3.133%	15.742%
Jun-96	119.82	3.527%	19.825%
Jul-96	119.84	0.016%	19.844%
Aug-96	119.04	-0.670%	19.041%
Sep-96	120.79	1.469%	20.789%
Oct-96	122.97	1.802%	22.967%
Nov-96	118.29	-3.804%	18.289%
Dec-96	**115.62**	**-2.257%**	**15.619%**
Jan-97	116.2	0.48%	0.48%
Feb-97	118.6	2.04%	2.54%
Mar-97	119.9	1.15%	3.71%
Apr-97	114.6	-4.39%	-0.83%
May-97	113.7	-0.85%	-1.68%
Jun-97	115.4	1.51%	-0.19%
Jul-97	115.6	0.19%	-0.08%
Aug-97	117.5	1.72%	1.64%
Sep-97	119.8	2.01%	3.67%
Oct-97	119.7	-0.13%	3.54%
Nov-97	118.7	-0.79%	2.72%
Dec-97	**116.1**	**-2.22%**	**0.44%**
Jan-98	115.9	-0.20%	-0.20%
Feb-98	116.3	0.38%	0.18%
Mar-98	117.8	1.32%	1.50%
Apr-98	121.0	2.67%	4.21%
May-98	123.8	2.31%	6.61%
Jun-98	123.0	-0.66%	5.91%
Jul-98	123.6	0.51%	6.45%
Aug-98	109.2	-11.67%	-5.97%
Sep-98	100.0	-8.37%	-13.83%
Oct-98	91.5	-8.52%	-21.18%
Nov-98	97.2	6.20%	-16.29%
Dec-98	**95.7**	**-1.51%**	**-17.55%**
Jan-99	97.6	1.97%	1.97%

APPENDIX C

COMBINED ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED BOND AND BANK LOAN INDEX

(December 1995 = 100)

	Monthly		Year-to-Date
Date	**Level**	**Return**	**Return**
Feb-99	98.4	0.78%	2.77%
Mar-99	99.2	0.84%	3.63%
Apr-99	105.5	6.31%	10.16%
May-99	105.9	0.45%	10.66%
Jun-99	107.7	1.66%	12.49%
Jul-99	110.4	2.49%	15.29%
Aug-99	105.0	-4.87%	9.67%
Sep-99	103.3	-1.58%	7.94%
Oct-99	98.8	-4.34%	3.26%
Nov-99	100.4	1.59%	4.90%
Dec-99	**100.0**	**-0.43%**	**4.45%**
Jan-00	103.6	3.59%	3.59%
Feb-00	101.7	-1.78%	1.74%
Mar-00	97.3	-4.31%	-2.64%
Apr-00	95.6	-1.80%	-4.39%
May-00	93.4	-2.26%	-6.55%
Jun-00	93.1	-0.41%	-6.93%
Jul-00	93.1	0.10%	-6.85%
Aug-00	91.3	-2.02%	-8.73%
Sep-00	91.4	0.13%	-8.61%
Oct-00	89.1	-2.51%	-10.90%
Nov-00	85.7	-3.77%	-14.26%
Dec-00	**84.2**	**-1.84%**	**-15.84%**
Jan-01	87.7	4.21%	4.21%
Feb-01	93.4	6.50%	10.99%
Mar-01	92.3	-1.19%	9.67%
Apr-01	90.1	-2.39%	7.05%
May-01	93.4	3.65%	10.96%
Jun-01	95.6	2.42%	13.64%
Jul-01	95.8	0.18%	13.84%
Aug-01	98.4	2.73%	16.95%
Sep-01	94.9	-3.61%	12.73%
Oct-01	95.3	0.45%	13.24%
Nov-01	96.5	1.27%	14.68%
Dec-01	**97.2**	**0.77%**	**15.56%**
Jan-02	100.1	2.96%	2.96%
Feb-02	97.7	-2.38%	0.52%
Mar-02	100.9	3.18%	3.71%

APPENDIX C

COMBINED ALTMAN-NYU SALOMON CENTER INDEX OF DEFAULTED BOND AND BANK LOAN INDEX

(December 1995 = 100)

	Monthly		Year-to-Date
Date	**Level**	**Return**	**Return**
Apr-02	103.5	2.60%	6.41%
May-02	102.8	-0.68%	5.68%
Jun-02	97.6	-5.10%	0.32%
Jul-02	93.4	-4.24%	-3.93%
Aug-02	92.9	-0.54%	-4.45%
Sep-02	91.3	-1.70%	-6.07%
Oct-02	90.2	-1.26%	-7.25%
Nov-02	96.1	6.51%	-1.22%
Dec-02	96.7	0.69%	-0.53%
Jan-03	100.9	4.35%	4.35%
Feb-03	101.3	0.38%	4.75%
Mar-03	104.5	3.17%	8.06%
Apr-03	110.4	5.63%	14.14%
May-03	116.9	5.89%	20.86%
Jun-03	126.3	8.03%	30.57%
Jul-03	123.6	-2.17%	27.74%
Aug-03	126.5	2.34%	30.73%
Sep-03	132.8	5.04%	37.31%
Oct-03	138.7	4.44%	43.41%
Nov-03	140.9	1.60%	45.70%
Dec-03	144.4	2.47%	49.30%

Distressed Debt Managers 2003

AEG
Angelo, Gordon & Company
Apollo Management
Appaloosa Management
Ares Corporate Opportunities Fund
Ashmore Asian Recovery
Avenue Capital Partners
Bay Harbour Advisors
Beltway Capital
Bennett Management Company
Black Diamond
Blackstone Alternative Asset Mgmt.
Buckeye
Canyon Capital
Cardinal Capital
Cargill
Carl Marks
Carlyle Strategic Partners
Catlock Capital
Cerebrus Partners
Citadel Investments
Commonwealth
Concordia Advisors
Contrarian Capital
Corsair
Cypress Management
Cyrus
Davidson Kempner
DDJ Capital Management
Durham Asset Management LLC
Eagle Rock
Epic Asset Management
Farallon Partners
Forest Investment Management
Franklin Mutual Recovery
GE
Golden Tree LLC
Gramercy Capital
Greywolf
Gruss Asset Management L.P.
GSC Capital
H.I.G.
Halcyon/Slika (Alan B.) Management
HBV/Mellon
Highbridge
Highland Capital
JLL Partners
KD Distressed Capital
King Street Advisors
KPS Special Stuations Fund
KS Distressed Debt
Lampe Conway
Leucadia National Corporations
Levco Debt Opportunities
Litespeed Partners
LongAcre Capital Partners
Longroad Asset Management
Marathon Capital LLC
MatlinPatterson Global Advisors

Distressed Debt Managers 2003

MHR
MJ Whitman Mgmt Co.
Moore Asian Recovery Fund
Murray Capital
MW Post
New Generation Advisers
Oakhill
Oaktree Capital
Och Ziff Friedheim
Owl Creek Capital
P. Schoenfeld Asset Management
Pacholder Associates, Inc.
Pacific Alternative Asset Management
Patriach
Pegasus
Pequot Capital
Pine Creek
Pinewood Capital Partners LLC
PMI
PPM America
Quadrangle Group LLC
Questor Management
Radius
Republic
Resolution Partners
Restoration Capital Management
Resurgence Corporate Fund
Salisbury
Satellite
Schultze Asset Management
Scoggin
Seneca
Silvergang
Silverpoint Capital
Spring Street
Stanfield Capital Management
Stark Investments
Stonehill
Strategic Value Partners
Summit
Sunrise Capital Partners
TA Mckay & Co.
Third Avenue Value Fund
Triage Capital
Trilogy Capital
Trust Company of the West
Turnberry Capital
Van Kampe
Varde Partners, Inc.
W.R. Ross & Co.
Wayland Fund
Wellspring Capital Partners
Wexford Capital
Whippoorwill Associates, Inc.
William E. Simon & Sons
Xerion
York Capital

Appendix E

Investment Styles in Distressed Debt Investing

Active/Control	Active/Non-Control	Passive
Requires 1/3 minimum to block and ½ to control; may require partner(s)	Senior secured, senior unsecured	Invest in undervalued securities trading at distressed levels
Take Control of company through debt/equity swap	Active participation in restructuring process; Influence process	Sub-strategies: trading/buy-hold/senior or senior secured/sub debt/"busted converts"/capital structure arbitrage/long-short, value
Restructure or even purchase related businesses; roll-up	Exit via debt or equity (post-chapter 11) markets	Trading oriented; Sometimes get restricted
Equity infusion; run Company	Generally do not control	Holding period of 6 months to 1 year generally; Longer sometimes
Exit 2-3 years	Holding period of 1-2 years	Target return: 12-20%
Large or Mid-Small Cap focus	Large or Mid-Small Cap focus	
Target return: 20-25%	Target return: 15-20%	